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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,785	10/22/2001	Gang Sun	18062G-004100US	6976

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EXAMINER

EINSMANN, MARGARET V

ART UNIT PAPER NUMBER

1751

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/037,785

Applicant(s)

SUN ET AL.

Examiner

Margaret Einsmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-8, 10-15 and 35-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-8, 10-13, 15 and 35-37 is/are rejected.
- 7) ☐ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/13/2004 has been entered. The pending claims are 1-8,10-15, 35-37.

The rejection of Claims 1-8, 10-15 under 35 U.S.C. 102(b) as being anticipated by Todd, US 6,136,044 has been mooted by applicant's claim amendments.

The rejection of Claims 1-8, 10-11 and 15 under 35 U.S.C. 102(e) as being anticipated by Erskine, US 6,516,633 B1 has been mooted by applicant's claim amendments.

The rejection of Claims 1-8, 10, 12-15 under 35 U.S.C. 102(e) as being anticipated by Soane et al., US 2003/0013369 has been mooted by applicant's claim amendments.

The following new grounds of rejection are necessitated by applicant's amendments.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There are several errors in the listing of textile materials in claim 3. Applicant is requested to correct the claim by referring to paragraph 19 page 5 in the specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 10-13, 15, 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cramer et al., US 6,645,569 A1. Cramer discloses a process of coating textile materials including all natural and synthetic textiles with inorganic nanoparticles including metal oxide particles. See col 3 line 62 and all of col 4 for the kinds of textile materials reading on claims 2-5 and 7. Regarding claim 6, that is merely an intended use and is well within the scope of this patent, which specifically mentions the use of the nanoparticles as coatings for diapers and other disposable absorbent articles. See claims. Regarding the limitation of claim 8, , particle size is disclosed in column 9 third full paragraph. Column 13 line 19 begins a discussion of inorganic metal oxide particles reading on claims 10-13. The examiner notes that a metal oxide is a particle that contains a metal, thus reading on claims 12 and 13. At least silicon and

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zirconium are specifically mentioned in column 13. Regarding claim 15, the claimed utilities are described in many places including col 1 line 48 to col 2 line 16 , col 13 lines 25-30 and col 29 lines 35-41.

The patent differs from the claims because patentee does not state that the nanometer particles are imbedded, or that they are distributed at or near the surface of said textile and polymer system.

It would have been obvious to the skilled artisan that Cramer's nanoparticles are distributed at or near the surface of the textile and polymer system because patentees teach several methods of coating which result in the particles being impregnated into the surface, yet remain mostly on the surface, and also teach methods of enhancing the ability of the surface of the material to receive the coating materials. One of these methods is to wet the surface of the textile with surfactants. See col 23 line 51 et seq. Another way is to increase the surface energy of the soft surface onto which the nanoparticles will be applied by corona discharge, plasma treatment, UV radiation, etc. See col 24 lines 29 et seq. Another way is to provide a pressure gradient to the material, reducing the surface tension of the coating material. See col 25 lines 50 et seq. In this section, the use of pressure rollers is exemplified. The examiner notes that applicant use a padding process, which is an analogous process of using pressure rollers to impregnate the textile surface with the nanoparticles. Accordingly, absent evidence to the contrary, Cramer's nanoprocessed textile materials are essentially equivalent to the claimed textile materials.

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Claims 1, 6, 8 10-13, 15, 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over CN 1241661 (Abstract) and over CN 1306117A (Abstract). Silver and silver oxide are between or on fabric fibers to treat infection from wounds and fungi. See abstracts of both patents. It would have been obvious to the skilled artisan that the nanoparticles are imbedded at least in the surface of the fabric absent evidence to the contrary. A translation will be provided for these references, which may result in the rejection of further claims. For example the type of textile material is not disclosed in the abstracts.

Claims 1, 6, 8 10-13, 15, 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tedeco S. A., FR 2799392. Nanoparticles of oxides of tin, antimony, indium and cadmium are formed and textiles treated therewith. See abstract. Beginning on page 17 of the patent itself, there are examples of treating textiles with said nanoparticles. In example 2.1, nylon is treated in a bath of the dispersion of example 1 and heated. In examples 2.2, 2.3 and 2.4 nylon is treated with different dispersions in the same manner. Examples 2.5 and 2.6 treat polyester in the same manner. Patentee do not state that the nanoparticles are imbedded or to what extent the particles remain on the surface of the textile. It would have been obvious to the skilled artisan that the particles are imbedded in the textile and mainly remain on the surface, especially in the polyester, since the dispersion would not penetrate fully into the textile at the temperature of treatment, which appears to be room temperature, as it is known that polyester must be treated at high temperature and pressure, normally in

a thermosol process, in order to open the textile for a disperse dye to penetrate into the textile.

Allowable Subject Matter

Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret Einsmann whose telephone number is 703-308-3826. The examiner can normally be reached on 7:00 AM -4:30 PM M-Th and alternate Fridays.

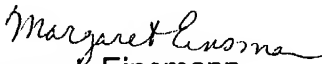
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 703-308-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

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Margaret Einsmann
Primary Examiner
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June 25, 2004